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The Western Drought Situation *and* Its Implications

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The Western Drought Situation and Its Implications

The adverse economic conditions which have prevailed in recent years over large areas of the West, principally owing to low agricultural prices and an abnormally restricted rainfall, have naturally caused serious apprehension all over Canada. The spectacular drouth south of the line, coupled with ruinously depressed agricultural world prices and the heroic, remedial measures contemplated there, have served to further focus public attention on this national calamity.

A great variety of opinions as to the permanent damage done by soil blowing and as to the future of the distressed districts, have naturally found their way into the press. Hesitant steps to move people out of some of these areas have actually been taken, and plans for tree planting and surface water conservation on an extensive scale, with the expectation of thus ultimately increasing the rainfall, have been elaborated. That the situation is one of profound national importance is clear as daylight, but we should carefully guard against anything approaching hysteria.

The Medicine Hat, Taber and Redcliffe districts of Southern Alberta, represent perhaps the driest parts of the West. Yet, we find that the average yield of wheat per acre in those districts for the period 1909 to 1923 inclusive, fifteen years of no more than average production, was 12.60 bushels per acre. In case this figure should not convey illuminating information let me add, that the average yield of wheat for the corresponding period in North Dakota was 10.55 bushels per acre, South Dakota 11.22 bushels, and the great wheat state of Kansas 13.78 bushels. Confronted with these figures, it is difficult to subscribe to the popular clamour, that our sub-humid country should be permitted to largely revert to cattle and sheep range.

THE HISTORICAL PROSPECTIVE.

I am able to look back on nearly half a century of intimate and practical farming experience, largely within the sub-humid areas of the

West. To the days when, behind an ox-team, I plodded wearily over sixty miles of frozen prairie to market at Winnipeg fifty-bushel loads of hard wheat, and received 40 cents a bushel, less expenses, for my product. I remember the time when wheat production west of Brandon was regarded as experimental, and wheat west of Regina an entire impossibility. I have witnessed, and been connected with, the colonization of these lands from their very beginning, and I have followed the ups and downs of these settlements. I have lived to see wheat production in the West increase from a mere trifle to the position of the world's greatest export volume and highest quality.

When I realize, as I profoundly do, that this was overwhelmingly the accomplishment of the present drouth-stricken districts, I find it exceedingly difficult to take up the pessimistic attitude. There is not the least evidence of any permanent climatic change. The more recent occurrences of dry years and wet years have been strictly in accordance with past history. I conclude, in fact, that climate, being most assuredly an absolutely static factor in the situation, the only reliable and sensible approach to the problem is the historical perspective.

All the information of scientists as to climate and soil strengthens faith in a revival of the distressed areas. Weather records taken at St. Paul, Minn., going back 100 years, show two previous shortages of rainfall similar to the present, and each of them was followed by marked recovery. It is as unsafe and unjust to measure the true and permanently sound potentialities of the West by the extreme drought conditions of recent years, as it was to measure them by the bumper crop years, which happened to coincide with high prices, when everybody felt that sudden riches were in sight. The one extreme is just as deceptive as the other.

THE PROUD PRODUCTION RECORD.

It is useful to remember, that the area under discussion covers not far from one-half of the entire settled portion of the western plains. But that is not all. This is the area which has produced practically all the high-grade wheat that Canada has exported over the years. Furthermore, it is the only area of the West where such wheat can ever be produced. If it became depopulated, Canada's fame as a wheat producer would be gone. Our production would largely be confined to the lower priced, softer wheats of

the northern poplar country, a type which is produced in great abundance and at low prices elsewhere with which we cannot compete. So it will be observed, that there is vastly more involved in the future of the drouth-stricken area than the problem of the individual settlers themselves. It behooves us, therefore, to carefully study the history of this area over the years, so as to determine whether we are actually facing a *de facto* uneconomic occupation or merely a severe, but temporary, set of adverse conditions.

Since the beginning of the present century the three prairie provinces have produced 8,000 million bushels of wheat, most of which has been exported. The great bulk of this and practically all of the high quality grain, came from the present distressed areas. It is interesting to contemplate what sort of a Canada we would have had today, had this enormous stream of primary wealth, created on our sub-humid farms, not found its way into the national channels of transportation, trade and industry.

CREATION OF NATIONAL WEALTH.

Furthermore, I am going to make this bold assertion, based on general observation, that over almost any ten successive years, the average, competent farmer on our dry plains has created a greater volume of national wealth and net income than the farmer in any other part of Canada and possibly in any other part of the world. My considered conclusion is, that, with the possible exception of one small area south of Battleford and another near Medicine Hat, both having an abnormally small, average rainfall, any suggestion of the wholesale evacuation of the present distressed areas, is absolutely to be dismissed.

We are confronted in Western Canada with precisely the same problems which face hard wheat producers everywhere on earth. In Australia, the United States, in Russia and the Balkans, the dry years come and go. When a succession of adverse seasons occur, great misery, even starvation, is frequently the lot of the farmer. If all these countries decided to abandon wheat production on their sub-humid lands and allowed them to revert to grazing, the world would face starvation within a year.

THE INCOMPARABLE SOILS.

These areas, however, have their compensations. One is the rich, almost inexhaustible, soils. In humid districts the mineral salts of the cultivated soil become suspended during heavy rains and are promptly carried into the drainage

courses and ultimately swept into the ocean. This is the major cause of the so-called "worn-out" farm lands and the agricultural decadence in districts like the New England and Southern States. Sub-humid soils are not subject to this leaching process. Their lasting qualities cannot, in fact, be estimated. In California and the Pacific states these soils have produced wheat, year after year, since 1864 with no diminution in yield per acre and without the use of fertilizers.

Those who complain of so-called "wheat mining" should study these facts. Of course, the humus content suffers from continued cropping and affects the mechanical condition of the soil and undoubtedly promotes blowing. Such soils, however, can be restored mechanically in various feasible ways. This problem is under careful technical investigation.

FUTURE POSSIBILITIES.

The study of soils is, in fact, in its infancy, and no one can forecast what the development of the next ten years will bring forth. For instance, through the spectacular work of Dr. Neidig and his able associates, concentrated super-phosphates are now manufactured at Trail, B.C., through the utilization of smelter by-products. This fertilizer is now available in almost unlimited quantities and at a very low price to the prairie farmer. Sir John Russell, director of the Rothamstead Experimental Station in England, the leading and oldest institution of its kind in the world, visited Canada in 1933. He wrote as follows:

"The season 1933, with its record of drouth and sunshine, must have taught us all something, and I am still quite puzzled by some of the results I saw. The most striking of them all was the effect of superphosphate on wheat on the Canadian prairies. I spent some weeks in July and August motoring over many thousands of acres in Saskatchewan and Manitoba, this being my fourth visit to those regions. On the previous occasions I had always been assured that fertilizers were quite useless, owing to the richness of the land. This time, however, I saw some notable increases given by superphosphate. Only small quantities were used; usually about $\frac{1}{2}$ -cwt. only per acre, yet increases of six bushels per acre were not uncommon."

"The cause of the discrepancy was explained to me as follows: In the old days the fertilizer was broadcasted over the whole surface of the soil. Then not long ago the experiment was made of drilling the superphosphate with the seed, putting both in with the same drill, letting both run down the same spout, though, of course, having two separate boxes."

Sir John here refers to the beneficial result of applying this fertilizer even in an exceedingly dry season. Who can tell whether the general

use of concentrated super-phosphates in our wheat culture may not revolutionize dry farming in the West? Present indications are, at any rate, that this at least is one line of escape for the wheat farmer. The use of artificial fertilizer in large scale wheat production is, of course, neither new nor startling. Every bushel of wheat produced by our great competitor, Australia, is raised by that means and there is no reason whatever why our prairie farmers should not adopt the same practice.

OTHER CORRECTIVE REMEDIES.

We might as well make up our minds, that there is nothing we can do to affect in the remotest degree the eternal factor of climate on these plains, but while it must be conceded that the main inhibiting factor in wheat production in our hard wheat prairie section is climatic and not within human control, there are other important factors which largely affect crop results. Loss of moisture through the growth of weeds, faulty tilling practices and crop sequence, inferior seed, preventable plant diseases and insect injury are very important factors which are wholly or partly susceptible to control. These take a heavy toll from the plains farmer almost every year. Could they be largely eliminated, through improved agricultural practice, the difference in total crop results over the years might conceivably compensate for the losses due to periodical drouths.

Sub-humid farming is exacting. No liberties can safely be taken. Success is only for the efficient. But our experience in prairie occupation has been brief and our agricultural system there is still in the crude, experimental stage. We are, however, making technical progress all along the line year by year. Elsewhere it has taken the better part of a century to accumulate the practical and technical experience needed to insure maximum production in pioneer agricultural areas. We cannot hope to eliminate this highly essential time element in establishing a competent farm economy throughout our dry areas and creating there a permanent and enduring agriculture.

The greatest problem is the human element which naturally contains about the same percentage of unteachables as do our urban communities. While misfits are constantly eliminated through economic attrition, others take their places. It is also a fair question whether this day and generation produces the same proportion of plodding, self-reliant pioneers as the generation which opened up the West.

SURFACE WATER AND TREE GROWTH.

Promoting the accumulation of surface water by damming water courses and diverting water from rivers advocated by many, would be a very expensive undertaking. Moreover, there is not a particle of evidence to indicate that it would have the remotest effect upon the rainfall. There is normally abundant moisture in the air to create rain. The problem is to precipitate this moisture, which is largely dependent on air currents. We cannot coax water from an unwilling sky. The country along the shores of Lake Winnipeg is just as dry as areas farther inland. The north shore of Lake Superior is notoriously dry. The extensive lakes in Minnesota did not save that state from drouth.

Another popular suggestion is extensive tree planting. One instinctively dislikes to make disparaging statements in respect to so worthy an objective as tree planting on the western plains. But it must reluctantly be admitted, that the climatic effect of providing extensive belts of trees, will certainly be nil. The presence of natural tree growth is an evidence of abundant rainfall. It is not the cause of it. The rainfall of Ontario has not changed since the clearing of her vast forests a century or more ago. There is, in fact, no evidence to show that the presence of trees affects rainfall at all.

SOIL BLOWING.

The creation of shelter belts on the prairies in such heroic proportions as to prevent the soil from blowing, would be a vast, costly and time-consuming enterprise. Aside from that, with the possible exception of the Caragana, there is not the remotest chance of inducing trees to survive where the rainfall is, over periods, insufficient even for the comparatively modest requirements of hard wheat. Man, in fact, stands helpless facing conditions which have prevailed in the West during the past three years. We must, I fear, become reconciled to the inevitable fact, that great as is the aesthetic value of trees and the utility value of a system of reservoirs, their effect on solving the drought problem would certainly simply be infinitesimal. A condition exists which is unalterable. We must simply learn how to live with it.

We, in the West, must always function under erratic and unpredictable climatic conditions. In the tropics weather phenomena can be fairly accurately forecasted, in some cases, down to the hour of occurrence. With us almost anything may happen at almost any time. The examina-

tion of tree rings in Saskatchewan indicates the occurrence of extreme drouth in the forties, seventies and in 1886, 1900 and 1901. Recent history we are familiar with. Hard wheat production, as a matter of fact, implies an incessant conflict between an erratic and hazardous climate on the one side and human ingenuity and endurance on the other.

INTELLIGENT LAND UTILIZATION.

Just now there is a demand for what is called rational land utilization policies. Commissions of inquiry are to outline the areas not fairly fit for culture and farmers in occupation in these black-listed districts are to be moved elsewhere. But, aside from obviously infertile soils, how are we at any time going to classify districts as fit or unfit for settlement? A hundred and one factors enter into consideration. We may establish a minimum yield over a period of years as a standard. Then comes the factor of changing prices, which destroys our calculation. If we allow for that, we are then confronted with the development of new, drouth-resistant varieties of grains, which again changes the picture. Ignoring this, we come to the most effective factor of all, namely, mechanization, cutting down cost of production, a process which goes on unceasingly. Land classed as sub-marginal today may — and probably will — be fairly fit for settlement in the course of a brief period of years, through the operation of these factors. We find then, that while we cannot change climate or soil, we can and do change agricultural practice. Human brains are, in fact, a much greater factor in economic land utilization than natural conditions.

In new countries land utilization is a problem of trial and error. Public supervision and guidance is almost politically impossible. Many years ago, when the south-westerly part of the prairie section was regarded as fit for grazing only, it was my privilege to assist in locating stock watering and drift-way reserves all through the range country. These were withdrawn from settlement, so as to protect the range for all time to come. Wet seasons, however, presently prevailed, and, in the course of years, the pressure of settlement became so intense that no government could withstand it. These reserves were gradually cancelled and homesteaded. That ended the dream of preserving the sub-humid area for range purposes. And in the light of subsequent experience, the decision to open up the country for agriculture was unquestionably perfectly proper.

THE LAW OF THE FRONTIER.

History shows that the first wave of colonization frequently perishes. The second is more successful, and the third, aided by accumulated experience of years, becomes reasonably permanent. This experimental pioneering seems a frightful waste of heroic and worthy human material and effort, but it is according to the ruthless law of the frontier. Prosperous settlements are built on the foundation of the struggles and miseries of one, or more, generations of intrepid pioneers, who blazed the way and failed. It is tragic, but so it is written.

It has been predicted that soil blowing will ultimately transform large areas in the West into deserts. That theory cannot be substantiated. My somewhat extensive study of deserts the world over leads me to the conclusion, that deserts are created and not made by man. Soil drifting is unquestionably a serious problem, and it is not unlikely that isolated sections of the West may be partly destroyed for agricultural purposes by the blowing of the soil. There are, however, preventive methods, such as strip farming, and certain systems of culture, which will mitigate or eliminate this evil, and which are now extensively practiced.

THE COMPENSATING ADVANTAGES.

Dry countries, however, have their compensating advantages. History records many more instances where irreparable damage has been done to land by the uncheckered run-off of excessive rainfall, than by soil blowing. The United States faces the loss of a hundred million acres of good agricultural land through water erosion, if steps are not taken to check the action of the water. The New England and Southern States, Oklahoma and Texas, are victims of this menace. China has suffered enormously through water erosion.

On the whole, humid countries are unquestionably exposed to much greater destruction of soils, soil fertility and even crops, than are sub-humid areas. It is a question whether the drouth south of the line is the greatest agricultural problem facing that country. The excessive humidity of the old south, which, coupled with an eroded soil, expensive fertilizers and the boll weevil, is rapidly destroying cotton production there, is at least an equally serious, and moreover permanent, menace.

ECONOMICS OF INTENSIVE FARMING.

Disparaging statements in respect to so-called "wheat mining" are generally founded on

ignorance of the actual conditions. Aside from raising sufficient animal products for family use, which most of them do, the farmer in the sub-humid districts, very sensibly devotes his attention to wheat. Intensive farming is not possible. Even if it were, it would not pay. Intensive farming is not necessarily a higher type of agriculture than extensive or specialized farming. It seldom gives as great money returns. Intensive farming is solely a product of high land prices, low wages and pressure of population. It produces more food per acre, but at a much higher unit cost, than extensive agriculture. At present it would fill no useful place in sub-humid prairie farming.

The proposal that the sub-humid plains should revert to grazing areas is heard whenever dry seasons visit the West. Such a development is absolutely unthinkable. In the first place, where would we find markets for largely increased animal products? Western Europe is now our only outlet. The present craze to increase bread grain production there behind fantastic tariffs will assuredly disappear with an awakening of common sense and through economic pressure. That would restore our wheat market. But the alternative — intensive agriculture — would also increase animal production there and thus further limit European animal imports. In view of the existing ruinous export situation, such a development would only place further difficulties in the way of our animal producers.

ECONOMIC NATIONALISM AND MARKETS.

We might as well become reconciled to the fact, that we face a new world, with a static population, rapidly drifting into economic nationalism. Modern science and invention now facilitate a very high degree of self-sufficiency unthought of even a few years ago. Nations are now largely independent of each other, aside from such raw materials as cannot be synthetically produced. This finds expression in the ever-increasing volume of import restrictions. The pressure of unemployment will drive nations into intensive agricultural practice. Extensive crops, such as wheat, will enter into international trade perhaps to an ever-increasing extent. But animal import business will almost certainly dwindle.

Secondly, areas which cannot produce a paying crop of hard wheat would rank only as very inferior grazing land. Its carrying capacity would be infinitesimal. The production of wealth

Ten
37-Year Comparison in Yields of Wheat Per Acre between Prairie Provinces and Principal Wheat Producing States of the Union.

Province or State	1898- 1904- 1905- 1906- 1907- 1908- 1909- 1910- 1911- 1912- 1913- 1914- 1915- 1916- 1917- 1918- 1919															
	Inclusive															
Manitoba	18.2	21.1	19.5	14.2	17.3	13.5	18.3	20.7	20.0	15.5	26.4	11.0	14.9	16.5	14.3	
Saskatchewan	19.9	23.0	21.4	13.5	13.6	22.1	15.5	18.5	19.9	19.5	12.4	25.0	16.3	14.3	10.0	8.5
Alberta	20.9	21.5	23.1	18.3	18.8	19.0	12.7	20.8	18.2	19.6	15.3	31.0	25.0	18.2	7.7	12.0
Average for Yrs... .	21.9	21.3	15.8	16.6	19.5	13.9	19.2	19.6	19.7	14.4	27.5	17.4	15.8	11.4	11.6	
North Dakota	12.2	14.0	13.0	10.0	11.6	13.7	5.0	8.0	18.0	10.5	11.2	18.2	5.5	8.0	13.6	6.8
South Dakota	11.2	13.7	13.4	11.2	12.8	14.1	12.8	4.0	14.2	9.0	9.1	17.1	6.8	14.0	19.0	8.0
Minnesota	13.2	13.3	10.9	13.0	12.8	16.8	16.0	10.1	15.5	16.2	10.6	17.0	7.6	17.5	18.0	9.4
Kansas	18.8	13.9	15.1	11.0	12.6	14.4	14.0	10.7	15.5	13.0	20.5	12.5	12.0	12.2	14.1	13.8

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	Average for 37 years	Province or State
	14.0	11.6	19.3	11.3	16.9	17.8	22.6	14.0	19.1	12.4	18.3	11.1	16.6	12.8	14.3	16.5	Manitoba
	11.2	14.9	20.2	19.8	10.2	18.5	16.2	16.4	22.0	11.1	13.7	8.9	13.6	8.4	8.6	15.7	Saskatchewan
	20.5	11.3	11.3	28.0	11.0	18.0	18.5	27.4	23.2	12.3	18.6	17.7	20.4	12.0	15.0	18.3	Alberta
	15.2	12.6	16.9	19.7	12.7	18.1	19.1	19.3	21.4	11.9	16.9	12.6	16.9	11.1	12.9	16.8	For 3 Provinces
	9.1	8.5	14.1	7.4	15.7	11.7	8.0	12.7	13.8	9.5	10.7	6.2	10.7	7.0	6.0	10.3	North Dakota
	9.0	9.0	13.2	9.6	14.6	11.8	5.7	14.9	10.6	9.7	11.9	5.7	13.5	4.0	4.0	10.6	South Dakota
	9.8	9.7	13.9	12.7	22.1	13.4	12.9	11.9	15.0	14.4	16.5	13.8	13.4	10.0	10.0	12.9	Minnesota
	15.4	12.2	12.6	10.1	16.3	9.0	14.8	11.2	17.0	12.0	13.5	19.0	11.5	9.0	9.0	12.7	Kansas
																11.8	For 4 States

would be so low that these rich lands would be almost a total loss to the nation. The gross animal productive capacity would not exceed 50 cents per acre compared with an average of \$8 to \$10 in wheat. The overhead cost in taxes, interest and improvements alone would make large grazing propositions impossible as business undertakings under a normal price level.

THE REMEDY OF IRRIGATION.

The only effective reclamation enterprise open to us is by artificial watering, and the West today is fairly surfeited with unoccupied, irrigable land. Vast capital has been sunk in the attempt thus to create opportunities for highly intensive farming, but after a quarter of a century the colonization problem is as yet unsolved. Our experience in that respect parallels almost exactly that of the United States, with its enormous number of unoccupied farms on the extensive government reclamation projects.

The first cost of the reclaimed acre is very considerable. The surface work is costly. The maintenance charge becomes a large, annual tax on the land and the skill and experience needed to apply the water intelligently is far beyond that of the average settler. These combined factors present a most difficult colonization and economic problem. The most successful irrigation enterprises south of the line are those located in semi-tropical climates and devoted to fruit and early vegetable production. Some in more northerly climates have succeeded in conjunction with industrial enterprises, such as beet sugar production and vegetable canning.

Those irrigated districts depending entirely on the production of alfalfa and other low price fodder crops, such as is the general situation in Western Canada, have been less successful and some have failed. Irrigation development is primarily a question of favourable markets and successful colonization and only, secondarily, a matter of capital and engineering. Strange as it may appear, further irrigation development in the West is not to be even considered at the present moment. We have today large irrigated and unoccupied areas available, and are even now confronted with the extraordinary demand from settlers on these lands to have the water supply privilege withdrawn so as to eliminate the burden of the annual maintenance charge. In the face of these conditions, it is obvious that further capital expenditure on irrigation development would be folly.

A PARADOXICAL SITUATION.

The situation in our western irrigated districts is frankly paradoxical. What should, by all the rules, be the most densely occupied and most highly developed agricultural areas in the West, show little indication of the fulfillment of earlier hopes. The tardiness of the highly essential complementary industrial development is one plausible explanation. The reason why they have not become the great cattle and sheep feeding and finishing centres of the West is not so easy to understand. Low meat prices and unfavourable feeding-in-transit freight rates may be partly responsible.

The present tendency, at least in the newer irrigated districts, looks like a retreat from the magnificent possibilities of this age-old system of farming, so fundamentally and unmistakably sound. All this suggests a national calamity perhaps second in importance only to the drouth. The human and time elements are, of course, factors which cannot be disregarded, but it is hardly open to argument, that if these costly developments can be kept intact, they will ultimately realize the most extravagant hopes of the original promoters. The Federal Government might profitably extend the helping hand, so as to preserve these valuable utilities until they can demonstrate their vast economic importance.

WHAT SHOULD BE DONE?

It is pertinent, then, to ask what can, and should, be done with and for the farmers in these distressed areas of ours. It is obvious that these people must be regarded in the same light as those temporarily unemployed in our towns and cities. They must be helped to tide over this unprecedented period of adversity as best they can, and, more important still, be placed in a position to promptly resume normal activities each spring. Canada can do no less and needs to do no more. This burden, being clearly beyond the ability of the provinces to carry, should be assumed by the Federal authorities. The main issue involved is not one of temporary human relief, but of keeping intact Canada's greatest export industry, upon which the welfare of the nation depends.

History will repeat itself and these distressed areas will again blossom forth and contribute their great quota to our national exports. This may, and probably will, happen even this year. Periods of drouth are often followed by large rainfall. The situation is easily capable of changing completely almost over night. One so

often hears the fear expressed, that, as a result of the past dry seasons, the moisture reservoir in the soil has now fallen so low, that a series of wet seasons will be needed to restore this water supply, and that, in the meanwhile, no worth while crop returns can be expected. The wheat plant feeds only on the top soil and has no interest whatever in the lower water strata. Given fair rains during the growing season no reason whatever exists why the West should not produce even a spectacular crop this season.

It is well to remember that farming is a very extraordinary occupation. It cannot be measured by ordinary standards. We call it a business. But it really isn't. It would not be difficult to demonstrate by the ordinary business statement, that agriculture, as a business, yields accounting losses oftener than profits. Agriculture in all countries, however, has immense power of adaptation and retrenchment. It can and does live on itself for long periods in spite of repeated crop failures and ruinous prices. And yet the majority of the world's population, stolidly pursue this occupation in good times and in bad. If agriculture was as susceptible to economic adversity as urban business and industry, the world would be in a state of perpetual starvation.

THE BRUTAL FACTS.

So from a point of view of economic resistance to adversity agriculture easily holds the palm of almost complete efficiency. Farming involves a continuous struggle against drouth, hail and other adverse climatic conditions, fungus and insect pests, ruinous prices and failing markets. The outstanding problems of western agriculture are economic rather than climatic. The rural population produces for the international market in fierce competition with the lowest paid workers on earth. It is compelled to adjust its economy to meet this competition or it perishes. This brutal fact governs its standard of living. Farmers the world over lead comparatively isolated lives. They become individualists by force of environment and unwieldy numbers. Complete organization for self-protection is physically impossible.

The farmer, therefore, is the helpless creature of chance and circumstances, which is merely another name for economic rule by ruthless, natural laws. To these, he is told, he must submit with the best grace possible. The agricultural development of new continents, vastly distant from the great markets, was rendered possible only by complete mechanization of production and highly

efficient transportation facilities. That, for a time, enabled him to meet the prices of the peasant, coolie and fellahin, with their woman and child labour and wretched standard of living.

THE ERA OF CONFUSION.

The mechanical age, however, brought in its train vast social and economic changes. Towns and cities grew up rapidly, living industrial labour. These workers gradually organized for mutual protection and welfare. They, naturally enough, demanded a comfortable standard of living. Industry, facing competition from low-wage countries, obviously could not pay substantially higher wages and exist. Then came the protective tariff and high wages. Still more protection and still higher wages. Presently professional and other groups organized and demanded larger fees. Financial institutions imposed rigid interest rates. Prices and living costs increased. The whole urban standard of living during the past score of years advanced to a fantastic degree under the shelter of autocratic and arbitrary protective organization. The law of supply and demand was completely ignored in this entirely artificial urban, economic structure.

But the world war, with its easy money and still easier morals, finally tempted the builders of this modern tower of Babel to add one story too many. The overburdened foundation crumbled and the whole arrogant house of cards collapsed. It was a clear case of economic suicide. Briefly, the town had completely forgotten the countryside, with its rigid, insurmountable limitations, which is the foundation of the urban structure. When agricultural prices were cut in two and in three, wages and commodity prices failed to follow the downward course, and agricultural purchasing power was destroyed. Unemployment and human misery followed. We have now, I trust, learned that the super-structure must always be adjusted to the carrying capacity of the foundation. This sound, architectural principle must be applied to every step in the laborious task of rebuilding our shattered economy.

PRICES AND UNEMPLOYMENT.

In 1929 agricultural prices began to recede and quickly reached the lowest depth in centuries. At first other prices and wages remained static. Then they began a very tardy, downward course. Competent investigation shows that for every dollar spent in retail purchasing, eighty cents on the average represents the cost of human services

in production and distribution. Wages and, to a smaller extent, salary scales are, therefore, the controlling factor in all commodity prices. During 1933 agriculture sold its products four points *below* the 1913 prices. The average hour rate of labour, on the contrary, stood at 72.6 points *above* 1913. Consequently, the purchasing power of half the producers in Canada has been completely demoralized and we are necessarily suffering from a major business depression. How could it possibly be otherwise?

The threadbare depression story that labour, being only partly employed, cannot cut its wage basis and live, is neither here nor there. It is precisely the hour rate of wages which determines prices. Hours of employment has no bearing whatever on the issue. It is clear, that during periods of low consumer purchasing power, the higher the rate of wages (and consequently prices) the lower the volume of sales and, therefore, the fewer the hours of employment. Labour may resist a lower wage basis, but it cannot control the volume of employment. The consumer ultimately determines the contents of the weekly pay envelope.

RESTORING AGRICULTURAL PURCHASING POWER.

Those who still speculate on the cause of the world economic crisis, simply have not taken the trouble to think the sequence of events through intelligently. Canada must assuredly remain in a state of depression until this situation is corrected. Only to the extent it is from time to time adjusted, will the business situation be improved. Average wages in the skilled occupations must, therefore, still be reduced by about forty per cent to create fair equilibrium with present agricultural prices. Some progress is being made day by day in that direction. Coercion is perhaps politically impossible, at least, until such time as wage and salary earners realize that security of employment depends on a balanced and fair national economy.

The same economic effect could, of course, be attained through increasing agricultural prices by about seventy per cent, which, of course, is even more impossible. There is not a chance of any substantial advance in world agricultural prices perhaps for several years to come. Canada cannot possibly influence world food prices. The only available alternative, therefore, is to adjust her internal economy to her agricultural price level, which she can do. Any child of ten should be able to grasp that. In the absence of such

corrective measures Canada is apparently doomed to work out of her crisis painfully and slowly and only as fast as the urban wage and salary levels, interest rates, taxes and other fixed charges decrease towards parity with farm prices under the stress of economic pressure.

JUST EXCHANGE VALUES.

It is clear that, aside from crop failures or similar calamities, business inactivity can only arise from one major cause, namely, curtailment of normal purchasing power on the part of any important group, or groups, of consumers. Stated more simply, the term "normal purchasing power," merely means the ability to exchange goods or services with other groups on the accustomed normal basis. It has nothing to do with money and applies whether the general price level is high or low. It is purely a question of maintaining an equitable, normal adjustment of prevailing exchange values. It does not matter a particle (aside from the liquidation of debt, which is quite another problem) whether wheat sells at 40c or at \$2.40, the sole economic problem is: *the exchange value of a bushel of wheat.*

Canada employs about half of her population in the primary industry of agriculture. It is abundantly clear that this basic industry, representing half of the nation's consuming power, is the absolute controlling factor in her economy. It is Canada's economic fountain head. The story is, more or less, the same in all exporting countries. *Two-thirds of all the people on earth live upon farms.* If at any time falling prices of primary products, owing to over-production or other causes, are forthwith followed by corresponding reductions in the wage and commodity price levels, as they should be in a rational society, primary purchasing power remains approximately normal, because normal exchange values are thus maintained and business activity is, therefore, largely undisturbed. Failure to obey this fundamental requirement, owing to human greed, creates economic chaos. The elimination of depressions, in fact, the whole economic issue, turns on the ability of society to establish and maintain just exchange values. *There is no other primary problem.*

THE BALANCED ECONOMY.

An article in a recent monthly of the "National City Bank," of New York, says, in part:

"The normal activities of the economic system make for order and tend to unify society, but the free economic system is composed of human beings and is subject to

their somewhat limited capacity for co-operation, evident on all sides.

"On the other hand, the conception of the system as composed of groups and classes whose interests are inherently conflicting, inevitably makes for antagonisms and strife, and is destructive of co-operation. Its influence tends to disintegrate society and nullify the process of specialization and integration by which all of the progress of the past has been made. It fails to recognize the fundamental truth that all of the gains of the highly organized modern system are dependent upon harmonious relations between the parts. It is impossible to disregard this requirement of the system and still realize the benefits which the system affords."

"This affirmation has a concrete meaning: Prosperity cannot be restored by attempts to build up the industries independently and seriatim, without regard to their relations to each other. The true test of any policy proposed for the benefit of a part is to be found in its effect upon the unified system. The parts can benefit only by the prosperity of the whole and prosperity for the whole means benefits for every part. The conditions of health in the human body furnish a perfect analogy for the conditions of prosperity in the economic system."

This brief summing up of the functioning of the economic system is admirable. It is worthy of concentrated study.

RECLAIMING THE RURAL SLUM.

It is the irony of fate that farming, the most laborious, hazardous and also most essential of human occupations, should be by far the worst paid. In every other department of human activity, remuneration has been doubled and trebled over the past century, hours of work have been reduced and arrogant labour organizations are pressing for still greater leisure hours. The farm, however, still carries on in its isolation with a mediaeval schedule of hours and pay. That situation cannot and will not endure. The pattern of rural life must be lifted out of the "sweated" industrial area.

Under equitable economic conditions, farmers in the distressed districts would themselves be able to provide for such periods of adversity as now prevails. The existing crisis, which otherwise intelligent people still persist in describing as a "depression," is, I think, merely the inevitable period of chaos, preceding a fundamental change to a more rational and just economic era. Agriculture will have nothing to fear from the new order, which will, I think, be adjusted more closely to the obvious limitations of the countryside, so as to create a greater degree of economic equilibrium. With this accomplished—as it must and will be—and the inevitable return of favourable seasons, the drouth problem will cease to trouble us.

TOTAL WHEAT PRODUCTION IN BUSHELS
Manitoba, Saskatchewan and Alberta, 1900 to 1934.
 (000 omitted)

1900	23,450,
1901	63,310,
1902	67,034,
1903	56,318,
1904	65,162,
1905	82,351,
1906	110,500,
1907	69,641,
1908	103,911,
1909	142,146,
Total	783,823,000
1910	118,280,
1911	178,371,
1912	185,602,
1913	196,375,
1914	143,103,
1915	360,187,
1916	242,314,
1917	211,953,
1918	164,436,
1919	165,544,
Total	1,966,165,000
1920	234,139,
1921	280,098,
1922	375,194,
1923	452,260,
1924	235,694,
1925	382,658,
1926	380,765,
1927	454,559,
1928	544,598,
1929	281,664,
Total	3,621,629,000
1930	397,306,
1931	284,000,
1932	108,400,
1933	250,841,
1934	265,000,
Total	1,605,541,000
Total Bushels	7,977,158,000

